



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,308	03/07/2002	Hiroshi Endoh	020300	8396

23850 7590 07/01/2002

ARMSTRONG, WESTERMAN & HATTORI, LLP  
1725 K STREET, NW.  
SUITE 1000  
WASHINGTON, DC 20006

EXAMINER
----------

LE, THAO X

ART UNIT	PAPER NUMBER
----------	--------------

2814

DATE MAILED: 07/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/092,308

Applicant(s)

ENDO, HIROSHI

Examiner

Thao X Le

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☐ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Drawings*

2. Figures 1A, 1B, 2, 3, and 12 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,557,141 to Harada et al.

Regarding to claim 1, Harada discloses a method for fabricating a semiconductor device, comprising the steps of: forming a overhanging structure 23, column 16 line 62 Fig. 21 b, having an umbrella-shaped portion on a semiconductor layer 21, column 16 line 58, forming a protective film 24, column 16 line 66 fig. 21c, processing protective

Art Unit: 2814

film by removal, column 17 line 1, so that an edge thereof on semiconductor layer is positioned inside an edge of umbrella-shaped portion (as in fig. 21c the vertical edge portion of film 24 on the stem of the overhanging structure is inside an edge of umbrella-shaped portion as claim), depositing an electrode material 28, column 17 line 26, on semiconductor layer using umbrella-shaped portion as a mask, processing electrode material to form an electrode at an interval from an edge of protective film.

Regarding to claim 2, 6 Harada discloses the step of processing the protective film is left in a state of existing inside edge of umbrella-shaped portion on semiconductor layer, and protective film is substantially removed from the surface of semiconductor, fig. 21C, column 17 line 1-2.

Regarding to claims 8-9, 13, 14 as discussed in claim1, Harada inherently discloses a method for fabricating a semiconductor device wherein the structure is an emitter and electrode is a base electrode of a bipolar transistor. Also the structure is a gate electrode and the electrode is a source and drain electrode of a field effect transistor.

Regarding to claim 10, 11, 12 as discussed in claims 1, 2, Harada discloses all the limitations of a semiconductor device as claimed, fig. 21f

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2814

5. Claim 3, 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,557,141 to Harada et al., and further in view of US Patent 6,392,278 to Kimura et al.

Regarding to claim 3, 4, 5, Harada discloses the protective film is selectively etched, column 17 line 1-2. But Harada does not expressly disclose a resist mask covering an area under umbrella-shaped portion for the etching process. However, at the time of the invention was made; it would have been obvious to one of ordinary skill in the art to use the mask to covering an area, exposed, developed and selectively etched or removed unexposed area, because such technique is conventional in the art, as it is being disclosed by Kimura, see column 6 line 1-50. Furthermore, exposing, developing, and etching photoresist is well known technique in the art, see Silicon Processing for the VLSI era, Volume 1 – Processing technology, by S. Wolf and R.N. Tauber, chapter 12, pages 407-409

#### *Allowable Subject Matter*

6. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Patent 6,309,933 and US Patent 6,204,102

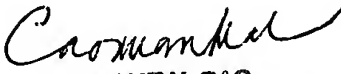
Art Unit: 2814

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X Le whose telephone number is 703-306-0208. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Thao X. Le  
June 19, 2002

  
PHAT X. CAO  
PRIMARY EXAMINER